

## CLAIMS

1           1.     A system for transmitting electronic data between a computer  
2 terminal on an aircraft and a terrestrial base station, the system comprising:  
3                 a telephone network at least partially secured to the aircraft for providing  
4 telephone service to aircraft passengers;  
5                 a server mounted upon or within the aircraft and coupled to the telephone  
6 network for communicating with the computer terminal over the telephone network,  
7 wherein the terminal is disposed remotely from the server and is coupled to the telephone  
8 network; and  
9                 a terrestrial base station for selectively communicating with the server to  
10 allow the data to be passed between the base station and the terminal over the telephone  
11 network.

1           2.     The system of claim 1 wherein the base station communicates with  
2 the server via one or more wireless links, each of the wireless links being a satellite link,  
3 a cellular telephone link, a microwave link or a NATS compatible link.

1           3.     The system of claim 1 wherein the base station or server determine  
2 which of a plurality of wireless links to employ based upon the availability of each of the  
3 plurality of links, a relative cost of each of the plurality of links, or a relative speed of  
4 each of the plurality of links.

1           4.     The system of claim 1 wherein the base station is configured to  
2 provide a first signal indicative of whether the data is text, a selected file type, an  
3 attachment, or a graphic image, and wherein the terminal is configured to generate a  
4 second signal in response to the first signal confirming that the data is to be transmitted  
5 from the base station to the terminal.

1           5.     The system of claim 1 wherein the base station stores electronic data  
2 to be transmitted from the base station to the server, and the server stores electronic data  
3 to be transmitted from the server to the base station, wherein the server and base station  
4 communicate with each other intermittently, and wherein the server determines when to  
5 transmit the stored data on the basis of the amount of time the aircraft has been in flight  
6 or on the basis of an amount of data stored.

1           6.     The system of claim 1 wherein the base station is configured to  
2 generate a trigger signal between the base station and the server when a predetermined  
3 amount of data has been stored by the base station, to initiate transmitting of the stored  
4 data to the server.

1           7.     The system of claim 1 wherein the server notifies the base station of  
2 pending e-mail messages not received by a computer terminal aboard the aircraft, wherein  
3 the computer terminal has an e-mail address, and wherein the base station is configured to  
4 store and resend, to the e-mail address, the pending e-mail messages after the aircraft  
5 arrives at a destination.

1           8.     The system of claim 1 wherein the server notifies the base station of  
2 e-mail messages, from a mail server, that have been received by the computer terminal  
3 aboard the aircraft, wherein the computer terminal has an e-mail address, and wherein the  
4 base station is configured to contact the mail server for deletion of the e-mail messages  
5 that have been received by the computer terminal.

1           9.     The system of claim 1, further comprising a CEPT interface coupled  
2 to the telephone network and to the server.

1           10.    The system of claim 1 wherein the server includes a database of  
2 information, the database being updated periodically by transmission of electronic data

3 from the base station to the server, and wherein the server allows the terminals to access  
4 the database with a web browser.

1 11. A system for transmitting electronic data between a terrestrial base  
2 station and a plurality of passenger computer terminals coupled to a network on an  
3 aircraft, the system comprising:

4 a database for storing e-mail messages for the plurality of passenger  
5 computer terminals; and

6 a server secured to the aircraft and coupled to the database and to the  
7 plurality of passenger computer terminals via the network, wherein the server and  
8 database are configured to collect and store a plurality of e-mail messages from the  
9 plurality of passenger computer terminals before establishing an intermittent wireless link  
10 with the base station, and configured to transmit the plurality of e-mail messages as a  
11 group over the link to the base station when the aircraft is in flight and when the server  
12 determines to initiate the transmission.

1 12. The system of claim 11 wherein the server and database store e-mail  
2 messages transmitted to the aircraft over the wireless link for at least one of the plurality  
3 of passengers, despite the one passenger's computer terminal not being logged into the  
4 server over the network.

1 13. The system of claim 11 wherein the server provides installer  
2 software for selective loading to the plurality of passenger computer terminals, wherein  
3 the installer software automatically changes access settings of at least some of the  
4 plurality of passenger computer terminals for accessing and exchanging e-mail with the  
5 server over the network, and automatically returns the access settings to a prior condition  
6 afterwards.

1 14. The system of claim 11 wherein the server is configured to employ  
2 Intelligent Mail Management (IMM) and to communicate with the plurality of passenger  
3 computer terminals under a Point-To-Point (PPP) protocol.

1                   15.    The system of claim 11 wherein the server is configured to compress  
2 the plurality of e-mail messages before transmission over the wireless link.

1                   16.    The system of claim 11 wherein the terminal receives from the base  
2 station a first signal indicative of a type of attachment associated with an e-mail message,  
3 and wherein the terminal is configured to transmit to the base station a second signal in  
4 response to the first signal requesting that the attachment be transmitted from the base  
5 station to the server over the wireless link.

1                   17.    The system of claim 11 wherein the server determines when to  
2 transmit the plurality of e-mail messages based on the amount of time the aircraft has  
3 been in flight or an amount of data stored.

1                   18.    The system of claim 11 wherein the server is configured to receive  
2 from the base station a trigger signal when a predetermined amount of data has been  
3 stored by the base station, and in response thereto, to initiate receiving the stored data  
4 from the base station.

1                   19.    The system of claim 11 wherein the server is configured to monitor  
2 system parameters of the aircraft including passenger doors open/closed status and  
3 aircraft airborne/landed status, and to communicate with the base station for e-mail  
4 message transfer based on the system parameters of the aircraft.

1                   20.    The system of claim 11 wherein the server is configured to monitor a  
2 status of a scheduled flight of the aircraft including a beginning and end of the flight, if  
3 the flight is cancelled, or if the flight is held away from a gate for an extended period of  
4 time, and wherein the server is configured to communicate with the base station for e-  
5 mail message transfer based on the flight status of the aircraft.

1           21. The system of claim 11 wherein the server provides a domain name  
2 server and automatically receives, and transmits to the base station, mail server addresses,  
3 user id's and passwords, including applicable firewall access information, from the  
4 plurality of passenger computer terminals when each passenger attempts to retrieve e-  
5 mail.

1           22. The system of claim 11 wherein the server database includes a  
2 plurality of web pages, and wherein the provides a domain name server and automatically  
3 redirects passenger DNS requests to appropriate web pages.

1           23. The system of claim 11 wherein the database includes a plurality of  
2 web pages, and wherein the server provides a domain name server that records passenger  
3 requested URLs and provides requested URLs to the base station for updating the  
4 plurality of web pages in the database.

1           24. The system of claim 11 wherein the server receives from the base  
2 station a summary of an attachment associated with an e-mail message and provides a  
3 hypertext link for accessing the attachment by a passenger, and wherein the server is  
4 configured to receive the attachment over the wireless link if the passenger provides a  
5 payment signal.

1           25. The system of claim 11 wherein the server receives from the base  
2 station a summary of an attachment and a hypertext link for sending the attachment by a  
3 passenger, and wherein the server is configured to send the attachment over the wireless  
4 link to the base station if the passenger provides an authorization signal.

1           26. The system of claim 11 wherein the server is configured to permit  
2 communications between the plurality of passenger computer terminals aboard the  
3 aircraft via the network.

1           27.    The system of claim 11, further comprising a plurality of passenger  
2 computer terminals secured to the aircraft and coupled to the network.

1           28.    The system of claim 11 wherein the database includes a plurality of  
2 video games, compressed format movies or audio files, and wherein the server and  
3 database provide the video games, movies or audio files to a plurality of passengers  
4 aboard the aircraft via the network.

1           29.    The system of claim 11 wherein the database includes a plurality of  
2 web pages, wherein the plurality of web pages lack links to other web pages not stored in  
3 the database, and wherein the server and database provide search engine functions to  
4 permit the plurality of passenger computer terminals to search and access desired web  
5 pages in the plurality of web pages.

1           30.    The system of claim 11 wherein the database includes a plurality of  
2 web pages, and wherein the server and database load and update the plurality of web  
3 pages under differential management proxy cache operations to load a predetermined  
4 number of levels from selected web sites, and to update changes in web page code  
5 without reloading each web page.

1           31.    The system of claim 11 wherein the database includes a plurality of  
2 web pages, and wherein the server and database update predetermined data in the  
3 plurality of web pages via the wireless link, wherein the predetermined data includes  
4 share prices, weather updates or news flashes.

1           32.    The system of claim 11 wherein the database includes a plurality of  
2 web pages, and wherein web pages in the database are updated by connection with a data  
3 loader at the base station, by physical replacement of a mass storage device containing  
4 the database, remotely by a wired link, or remotely by the wireless link.

1           33. An aircraft computer communication system for use on an aircraft,  
2 wherein the aircraft carries a plurality of passengers having computer terminals, the  
3 system comprising:

4           a database for storing e-mail messages for the plurality of passenger  
5 computer terminals;

6           a network hub located on the aircraft for allowing the transfer of the e-mail  
7 messages to the passenger computer terminals; and

8           a first port and a second port located on the aircraft for coupling the  
9 database with passenger computer terminals and for allowing the establishment of a first  
10 network node and a second network node respectively, and wherein the network hub  
11 routes selected e-mail messages between the database and the terminals.

1           34. The system of claim 33 wherein the first and second ports form ports  
2 of a passenger telephone system.

1           35. The system of claim 33 wherein the first node is coupled to a  
2 telephone system on the aircraft with a CEPT-E1 connection.

1           36. The system of claim 33, further comprising a server coupled to the  
2 database.

1           37. A method for transmitting electronic data between a plurality of  
2 passenger computer terminals on an aircraft and a terrestrial base station, the method  
3 comprising:

4           collecting and storing a plurality of e-mail messages for the plurality of  
5 passenger computer terminals at the base station;

6           establishing an intermittent wireless link with the base station; and

7           transmitting the plurality of e-mail messages as a group over the link  
8 between an airborne database and the base station.

1           38. A method according to claim 37 wherein the establishing includes  
2 establishing one or more wireless links, the wireless links being a satellite link, a cellular  
3 telephone link, a microwave link, or a NATS compatible link.

1           39. A method according to claim 37 wherein establishing includes  
2 identifying a desired link from a plurality of links based on the availability of each link,  
3 the relative cost of each link, or the relative speed of each link.

1           40. A method according to claim 37 wherein transmitting includes  
2 transmitting data using SMTP, HTTP, POP3 or IMAP protocol.

1           41. A method according to claim 37 wherein establishing includes  
2 identifying a desired base station from a plurality of base stations based on a available  
3 remaining capacity of the base stations or a least expensive communication route  
4 available by the base stations.

1           42. A method according to claim 37, further comprising receiving a  
2 trigger signal indicating e-mail messages stored at the base station await retrieval.

1           43. The method of claim 37 wherein storing includes storing store e-mail  
2 messages transmitted to the aircraft over the wireless link for at least one of the plurality  
3 of passengers, despite the one passenger's computer terminal not being logged on.

1           44. The method of claim 37, further comprises automatically changing  
2 access settings of at least some of the plurality of passenger computer terminals for  
3 accessing and exchanging e-mail, and automatically returning the access settings to a  
4 prior condition afterwards.

1           45. The method of claim 37, further comprises dynamically assigning IP  
2 addresses to at least some of the plurality of passenger computer terminals for accessing



3 and exchanging e-mail over an Ethernet network, wherein the at least some passenger  
4 computer terminals have static IP addresses and wherein Ethernet network properties of  
5 the at least some passenger computer terminals remain unchanged.

1 46. The method of claim 37, further comprising monitoring system  
2 parameters of the aircraft including passenger doors open/closed status, aircraft  
3 airborne/landed status, flight cancellation, or extended aircraft waiting while away from a  
4 gate, and communicating with the base station for e-mail message transfer based on the  
5 system parameters of the aircraft.

1 47. The method of claim 37, further comprising automatically collecting  
2 from each passenger and transmitting to the base station, mail server addresses, user id's  
3 and passwords and firewall access information from the plurality of passenger computer  
4 terminals when each passenger attempts to retrieve e-mail.  
5

1 48. The method of claim 37, further comprising automatically collecting  
2 from each passenger e-mail from a mail server logically positioned behind a firewall  
3 security measure, without the need for the passenger computer terminal being available.  
4

1 49. The method of claim 37, further comprising providing a summary of  
2 an attachment associated with an e-mail message and a hypertext link for accessing the  
3 attachment, and receiving the attachment over the wireless link if a passenger provides a  
4 payment signal.

1 50. The method of claim 37, further comprising storing a predetermined  
2 number of levels for a plurality of web pages, and updating changes in web page code for  
3 the plurality of web pages without reloading each web page.

1           51. A system for transmitting electronic data between a computer  
2 terminal on an aircraft and a terrestrial base station, the system including:

3           a server mounted upon or within the aircraft for communicating with the  
4 computer terminal wherein the terminal is disposed remotely from the server; and

5           a terrestrial base station for selectively communicating with the server to  
6 allow the data to be passed between the base station and the terminal.

1           52. The system of claim 51 wherein the base station communicates with  
2 the server via a link selected from one or a combination of: one or more wireless links;  
3 and one or more wire links.

1           53. The system of claim 51 wherein the server communicates with a  
2 plurality of remotely disposed computer terminals located on the aircraft for allowing  
3 communication of the electronic data between the base station and the respective  
4 terminals.

1           54. The system of claim 51 wherein the terrestrial base station  
2 selectively communicates with an Internet service provider (ISP) or corporate private  
3 network to collect the electronic data and provide it to the terminal via the server.

1           55. A method for transmitting electronic data between a plurality of  
2 passenger computer terminals on an aircraft and a terrestrial base station, the method  
3 comprising:

4           collecting and storing a plurality of e-mail messages from the plurality of  
5 passenger computer terminals at an airborne data base;

6           establishing an intermittent wireless link with the base station; and

7           transmitting the plurality of e-mail messages as a group over the link from  
8 the airborne database to a base station.

1           56. The method of claim 55 wherein the base station transmits at least  
2 one of the plurality of e-mail messages to a destination mail server for at least one of the

3 plurality of passengers, despite the one passenger's computer terminal not being logged  
4 on.

1 57. The method of claim 55, further comprises dynamically assigning IP  
2 addresses to at least some of the plurality of passenger computer terminals for accessing  
3 and exchanging e-mail over an Ethernet network.

1 58. The method of claim 55, further comprising automatically collecting  
2 from each passenger e-mail from a mail server logically positioned behind a firewall  
3 security measure.